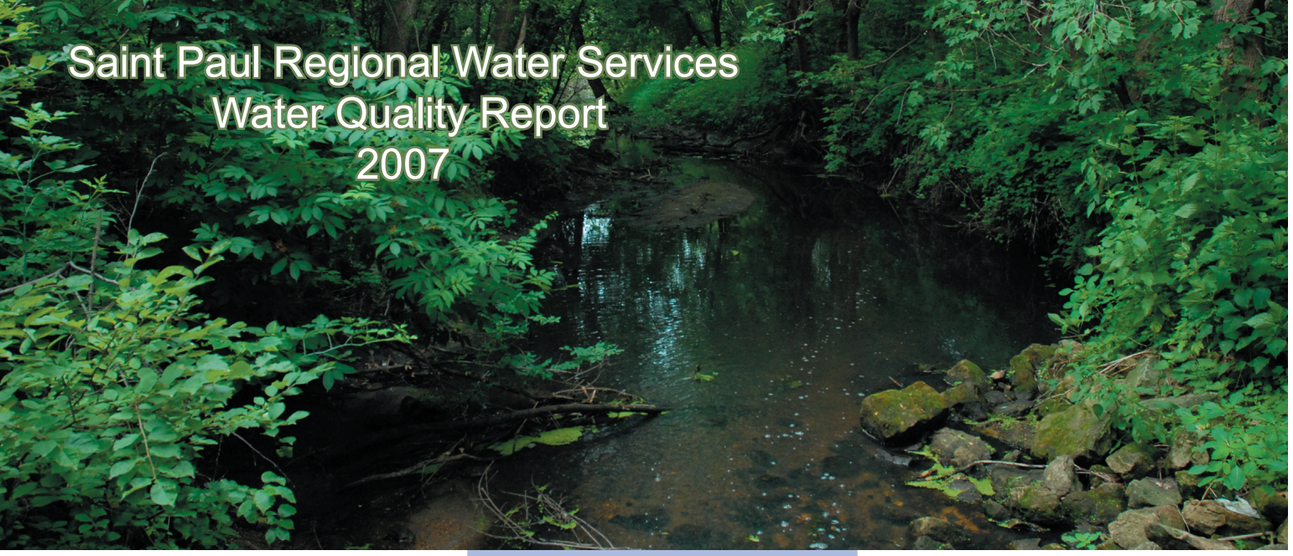

# Saint Paul Regional Water Services Water Quality Report 2007

## Español
Este reporte contiene información importante acerca de su agua potable. Haga que alguien se lo traduzca, o hable con alguien que lo entienda.

## Somali
Warbixintan waxay wadataa macluumaad muhiim ah ee la xiriira biyaha aad cabtid. Cid ha kuu tarjunto ama la hadl cid fahmaysa.

## Hmong
Dlaim ntawv tshaabxu nuav muaj lug tseemceeb heev nyob rua huv kws has txug cov dlej mej haus. Kuas ib tug paab txhais rua koj, los nrug ib tug kws paub lug thaam.


**SPRWS**
**Customer Service**
**651-266-6350**
**Water Quality**
**651-266-1635**
**Email:**
**waterinquiries@ci.stpaul.mn.us**
**Web Site:**
**stpaul.gov/water**
**Public Information**
**651-266-6308**
**Other Agencies**
**EPA Safe Drinking Water Hotline**
**1-800-426-4791**
**Minnesota Dept. of Health**
**651-201-4700**


*We are proud to provide you with quality drinking water at a reasonable price.*
*To participate in decisions that may affect the quality of water supplied by SPRWS, the public may attend the Board of Water Commissioners meetings, typically held at 5 p.m. the second Tuesday of each month at the Saint Paul City Hall.*

*To request additional copies of this report, please contact Customer Service at 651-266-6350.*


SAINT PAUL REGIONAL WATER SERVICES
1900 Rice St.
Saint Paul, MN
55113-6810


# Making your high quality water even better

Saint Paul Regional Water Services is proud that the drinking water we supply to more than 417,000 residents of Saint Paul and the surrounding areas continues to be in full compliance with all state and federal laws governing drinking water.

As part of our treatment process, SPRWS softens the water we deliver to you. This helps us regulate water hardness that reduces corrosion in our pipes, and it helps you, as the water you receive is 52 percent softer than the raw water we bring into the plant.

In addition, we try to provide you with as much information as possible about the overall quality of your water. Open this brochure to find important information from the EPA as well as the types and amounts of substances found in our water in the past year.

# Water hardness levels are a balancing act

Hard water. Most of us have heard the term, but what is hard water? Water hardness is a measure of the amount of dissolved minerals, notably calcium and magnesium, in the water, indicated by grains per gallon of water or parts per million (ppm). (See chart.) Both calcium and magnesium are essential to a healthy diet. Specialty bottled waters add minerals to give it a clean, crisp taste. Using hard water for drinking, cooking, or anything else is safe and does not pose a health issue.

However, very hard water can: (1) cause mineral build up on pipes, reducing flow; (2) build up on water heaters, making it more expensive to heat the water; and (3) make it harder to wash clothes, dishes, and ourselves by requiring more soap and detergent to produce enough lather for proper cleaning.

## SPRWS water averages 5.3 grains per gallon

How hard is water produced by Saint Paul Regional Water Services? Raw water we take from the Mississippi River, after being filtered through a system of lakes and canals on the way to our plant, averages about 10.8 grains per gallon or 189 ppm. This is considered very hard water. However, SPRWS softens the water for you as part of the treatment process. By the time water leaves the plant, the average hardness is 5.3 grains per gallon or 90 ppm—a reduction of nearly 52 percent. It is now considered moderately hard. Studies indicate that water below 7.5 grains per gallon does not need softening to avoid pipe buildup or less effective cleaning. (See chart.) In fact, one water softener company, plumbingsupply.com, tells potential clients anything under 6 grains per gallon doesn't need softening. Whether you use the 7.5 or the 6 grains hardness level, water provided by Saint Paul Regional Water Services is well below those levels.

## Why not make it softer?

Why don't we make our water even softer? Water that's too soft can actually cause more problems than water that is too hard. Very soft water can corrode pipes and leave behind corrosion deposits, which reduce pumping capacity. Corrosion creates leaks and can damage radiators, valves, pipes, meters, and water heaters. It also leaches lead and other materials from pipes into the water. While we reduce water hardness a great deal in our treatment process, we also balance the water hardness, pH, and carbonate levels to ensure that our water does not become too soft or too corrosive. We want pH and hardness levels to work together to reduce the corrosion in our pipes and help protect the surface of our pipes—keeping lead and other materials from leaching into the water.

## Hardness levels are balanced

In summary, the water hardness levels of the water we produce for our customers reflect a balance between too hard and too soft. The water leaving the SPRWS treatment plant is soft enough for most consumers to use, yet contains enough minerals to minimize corrosion of pipes, meters, and water heaters. While our consumers can soften their water, it is as a matter of personal preference, rather than need.

## Water Hardness Levels

| Grains Per Gallon | | | Parts Per Million |
|---|---|---|---|
| 15 | | | 274 |
| 14 | | | 257 |
| 13 | Very Hard 10.5 gpg and above | Very Hard 180 ppm and above | 240 |
| 12 | | | 223 |
| 11 | | | 206 |
| 10 | 10.8 gpg — Raw water entering SPRWS plant | 189 ppm | 189 |
| 9 | Hard 7.0 - 10.5 gpg | Hard 120 - 180 ppm | 171 |
| 8 | | | 154 |
| 7 | | | 137 |
| 6 | Moderately Hard 3.5 - 7.0 gpg | Moderately Hard 60 -120 ppm | 120 |
| 5 | 5.3 gpg — Treated water leaving SPRWS plant | 93 ppm | 103 |
| 4 | | | 86 |
| 3 | | | 69 |
| 2 | Slightly Hard 1.0 - 3.5 gpg | Slightly Hard 17.1 - 60 ppm | 34 |
| 1 | | | 17 |
| 0 | Soft 0.0 - 1.0 gpg | Soft 0.0 - 17.1 ppm | 0 |

7.5 grains or above; 128 parts per million or above consider softening

Chart adapted from *Water Testing and Interpretation: The Secondary Drinking Water Standards* by Judith C. Stewart, Ann T. Lemley, Sharon I. Hogan, and Richard A. Weismiller, Cornell University and the University of Maryland, 1988.

# Important information from the EPA

According to the Environmental Protection Agency (EPA), drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of contaminants does not necessarily indicate that water poses a health risk.

The EPA imposes regulations that limit the amount of certain contaminants in water provided by public water systems to ensure that tap water is safe to drink. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

By law, SPRWS must take corrective action and notify our customers immediately if it is ever in non-compliance with federal or state drinking water standards. We continue to comply with all regulations.

## Lead in drinking water

Please note that infants and young children tend to be more vulnerable to lead in drinking water than the general population.

The lead levels in the SPRWS water system continue to be in compliance with drinking water standards and we continue to monitor these levels carefully. However, it is possible that lead levels in your home might be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead levels in your water, run your tap for 30 seconds to 2 minutes before using the water. Or, you may wish to have your water tested.

For additional information, call the Safe Drinking Water Hotline at 800-426-4791.

If you have questions about SPRWS drinking water, please call our lab at 651-266-1635.

# Sources of water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of people and animals.

Your water is regularly tested for the following contaminants:

• *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural operations, and wildlife.

The Mississippi River

• *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

• *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

• *Organic chemical contaminants,* including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production; they can also come from gas stations, urban storm water runoff, and septic systems.

• *Radioactive contaminants,* which can be naturally occurring or be the result of oil and gas production and mining activities.

We draw a large percentage of our water from the Mississippi River, which travels through a chain of lakes, including Deep, Charles, Pleasant, Sucker, and Vadnais before reaching our treatment plant. Groundwater from six deep wells, ranging from 438 to 465 feet in depth, that tap into the Prairie du Chien-Jordan aquifer, provides a small percentage of our water supply. A Minnesota Department of Health assessment of our water sources indicates that, while susceptible to contamination, SPRWS has consistently and effectively treated our source water to meet drinking water standards.

For a copy of the source water assessment, call the Minnesota Department of Health at 651-201-4700 or 1-800-818-9318 (press No. 5) or look online at: www.health.state.mn.us/divs/eh/water/swp/swa

# Substances detected in SPRWS water in 2006

No contaminants were detected at levels that violated federal drinking water standards during the testing period from Jan. 1, 2006 to Dec. 31, 2006. Some contaminants were detected in trace amounts that were below legal limits. These substances are shown on the table below. Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2006. If any of these contaminants were detected the last time they were sampled, they are included in the table along with the date the detection occurred.

## Key to chart

**MCLG:** Maximum contaminant level goal. The concentration of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. **MCL:** Maximum contaminant level. The highest level allowed in drinking water. **MCLs** are set as close to the MCLGs as feasible using the best available treatment technology. **AL:** Action level. The concentration of a contaminant which, if exceeded, triggers treatment methods or other requirements that the utility must follow. **PPB:** Parts per billion. **PPM:** Parts per million. **PCi/l:** PicoCuries per liter (a measure of radioactivity). **ND:** Not detected at testing limits. **NTU:** Nephelometric Turbidity Unit. Turbidity is a measure of the clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The percentage of total organic carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by the US EPA. **TT:** Treatment technique. The EPA has two requirements: 1) that the maximum level found must be less than 1 NTU, and 2) that the level must be under 0.3 NTU 95% of the time. **SPRWS** met both requirements. **HRL:** Health risk limit. **N/A:** Not applicable (Does not apply).

** This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.*

*** Some contaminants do not have maximum contaminant levels (MCL) established for them. These "unregulated contaminants" are assessed using state standards known as health risk limits to determine if they pose a threat to human health. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water utility must inform its customers and take corrective actions.*

## Regulated substances controlled prior to distribution

| Substance (units) | Highest Level Allowed (MCL) | Highest Level Detected | Range Detected | Average Level* | Recommended Maximum (MCLG) | Typical Source |
|---|---|---|---|---|---|---|
| Combined Radium (pCi/l) (12/12/02) | 5.4 | 0.18 | N/A | N/A | 0 | Natural deposits |
| Total Coliform Bacteria | Present in ≤ 5% of monthly samples | 1.0 | 0.0 - 1.0 | 1.0 | 0 present | Naturally present in the environment |
| Nitrate as Nitrogen (ppm) | 10 | 0.42 | N/A | N/A | 10 | Fertilizer, sewer, natural deposits |
| Trihalomethanes (Total TTHM) (ppb) | 80 | 27.2 | 14.5 - 27.2 | 29.9 | 0 | Disinfection by-product |
| Haloacetic Acids (HAA5) (ppb) | 60 | 18.3 | 9.2 - 18.3 | 19.1 | 0 | Disinfection by-product |
| Fluoride (ppm) | 4.0 | 1.3 | 1.2 - 1.3 | 1.28 | 4.0 | State mandated dental health additive; fertilizer, aluminum factory discharge |

| Substance (units) | Maximum Residual Disinfectant Level Goal | Maximum Residual Disinfectant Level | Lowest/Highest Monthly Average | Highest Quarterly Average | Typical Source |
|---|---|---|---|---|---|
| Chlorine (ppm) | 4.0 | 4.0 | 2.47/3.35 | 2.95 | Microbe control additive |

## Regulated substances controlled at the customer's tap

| Substance (units) | Action Level (AL) (90 percent of samples must be at or under this level) | Number of Sites Over the Action Level | 90 % of samples were below this level | Typical Source |
|---|---|---|---|---|
| Lead (ppb) (7/2005) | 15.0 | 1 out of 50 | 11 | Corrosion of home plumbing |
| Copper (ppm) (7/2005) | 1.3 | 0 out of 50 | 0.072 | Corrosion of home plumbing |

## Turbidity (NTU)

| Substance (units) | Highest Level Allowed | Lowest Monthly Percent of Samples Meeting the Limits | Highest Single Measurement | Average Level | Typical Source |
|---|---|---|---|---|---|
| Turbidity | TT | 100 % | 0.21 NTU | 0.04 | Soil runoff |

## Unregulated substances**

| Substance (units) | Level Detected | Recommended Maximum or HRL | Typical Source |
|---|---|---|---|
| Sodium (ppm) | 12.0 | 200 | Natural deposits |
| Sulfate (ppm) | 20.4 | 250 | Natural deposits |

## *Special notice for vulnerable persons*

*Some people may be more vulnerable to contaminants found in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections.*

*These people should seek advice about drinking water from their health care providers. Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).*